DETAILED ACTION

Response to Amendment

In response to applicant's amendment received on 1/28/2008, all requested changes to the claims have been entered.

Response to Argument

Applicant's arguments filed on 1/28/2008, have been fully considered and they are persuasive. An office action based on the new grounds follows below.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.
>
> Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101.
>
> … a signal does not fall within one of the four statutory classes of Sec. 101.

> … signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101.

Claims 17-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 17-24 are drawn to functional descriptive material recorded on a computer-readable medium. Normally, the claim would be statutory. However, the specification, at paragraph [0113] defines or exemplifies the claimed computer readable medium as encompassing statutory media such as a "ROM", "hard disk", etc, as well as ***non-statutory*** subject mater such as a "line by means of a network such as the Internet".

"A transitory, propagating signal … is not a "process, machine, manufacture, or composition of matter." Those four categories define the explicit scope and reach of subject matter patentable under 35 U.S.C. § 101; thus, such a signal cannot be patentable subject matter." (*In re Petrus A.C.M. Nuijten;* Fed Cir, 2006-1371, 9/20/2007).

Because the full scope of the claim as properly read in light of the disclosure appears to encompass non-statutory subject matter (i.e., because the specification defines/exemplifies a computer readable medium as a non-statutory signal, carrier waver, etc.) the claim as a whole is non-statutory. The examiner suggests amending the claim to *include* the disclosed tangible computer readable storage media, while at the same time *excluding* the intangible transitory media such as "line by means of a

network such as the Internet", signals, carrier waves, etc. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 8 are rejected under 35 USC 103(a) as being unpatentable over Tanaka (US 2002/0003897) in view of Hoffman et al. (US 2004/0169664).

Tanaka teaches an image area extracting part for extracting a plurality of image areas from image data (Fig.1 ref label 19); a positional information recognizing part for recognizing positional information of each extracted image area (Fig 5A ref label S4605, paragraph [0085]); an attribute recognizing part for recognizing at least attributes concerning whether each extracted image area is a filled closed area or an unfilled closed area (abstract, an enclosed area color detection unit that detects the colors inside the enclosed area);

Tanaka does not teach a file producing part for producing a file by synthesizing said image areas based on the positional information recognized by said positional information recognizing part; and a sequence setting part for setting up overlaying sequence for each image area in accordance with the recognition result of said

attribute recognizing part, wherein said file producing part produces the file by overlaying said image areas in accordance with the overlaying sequence set up by said sequence setting part.

Hoffman et al. teaches a file producing part for producing a file by synthesizing said image areas based on the positional information recognized by said positional information recognizing part (para. [0006] and [0059]) wherein said file producing part produces the file by overlaying said image areas in accordance with the overlaying sequence set up by said sequence setting part (para. [0059]); sequence setting part for setting up overlaying sequence for each image area in accordance with the recognition result (formatting properties) of said attribute recognizing part (claim 1 (c) and claim 4, para. [082]).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to set up overlaying sequence for image area and save into a file in the device of Tanaka.

The suggestion/motivation for doing so would have been that to optimize image processing by identifying / segmenting the image layer so that they can be processed individually and then recombined into a desired order to achieve a better output image.

Therefore, it would have been obvious to combine Hoffman et al. with Tanaka to obtain the invention as specified in claim 1.

With respect to claim 8, Tanaka teaches document scanning unit for scanning documents to obtain input image data, wherein said image area extracting part

extracts a plurality of image areas from the input image data obtained by scanning the documents (para. [0041]).

3. Claim 2 is rejected under 35 USC 103(a) as being unpatentable over Tanaka (US Patent Application Pub. 2002/0003897) in view of Hoffman et al. (US 2004/0169664) as applied to claim 1 above and further in view of Bourder et al. (US Patent Application Pub. 2005/0116963).

Tanaka in view of Hoffman et al. teaches all the limitation of claim 1 which claim 2 depends.

Tanaka in view of Hoffman et al. does not teach that said sequence setting part sets up the overlaying sequence to overlay unfilled closed areas in front of filled closed areas.

Bourder et al. teaches overlaying unfilled closed areas in front of filled closed areas (paragraph [0025]).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to overlay unfilled closed areas in front of filled closed areas in the device of Tanaka, Hoffman et al.

The suggestion/motivation for doing so would have been that to exhibit transparency instead of covering another object when object is unfilled (Bourder et al. , paragraph [0025]).

Therefore, it would have been obvious to combine Bourder et al. with Tanaka, Hoffman et al. to obtain the invention as specified in claim 2.

4. Claim 3 is rejected under 35 USC 103(a) as being unpatentable over Tanaka (US Patent Application Pub. 2002/0003897) in view of Hoffman et al. (US 2004/0169664) in further view of Bourder et al. (US Patent Application Pub. 2005/0116963) as applied to claim 2 above and in further view of Accad (US Patent 6,330,363)

Tanaka in view of Hoffman et al. in further view of Bourder et al. teaches all the limitation of claim 2 which claim 3 depends.

Tanaka in view of Hoffman et al. in further view of Bourder et al. does not teach that said sequence setting part sets up the overlaying sequence to overlay line areas in front of filled closed areas.

Accad teaches overlaying line areas in front of filled closed areas. (col. 7 line 60 – col.8 line 10).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to overlay line in front of filled closed areas in the device of Tanaka, Hoffman et al.

The suggestion/motivation for doing so would have been that to avoid covering line by filled closed areas.

Therefore, it would have been obvious to combine Accad with Tanaka, Hoffman et al. and Bourder et al. to obtain the invention as specified in claim 2.

5. Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Tanaka (US Patent Application Pub. 2002/0003897) in view of Hoffman et al. (US 2004/0169664) as applied to claim 1 above and further in view of Ohta et al. (US Patent 7,054,029).

Tanaka in view of Hoffman et al. teaches all the limitation of claim 1 (see above) which claim 4 depends.

Tanaka in view of Hoffman et al. also teach said image area extracting part comprises a first extracting part for extracting text image areas (Tanaka, Fig. 3, S4200) graphic image areas (Tanaka, Fig. 3, S4400), and photographic image areas (Tanaka, paragraph [0049]), from image data, and a second extracting part for extracting filled closed areas, unfilled closed areas, and line areas that do not form any closed areas from the extracted graphic image areas (Tanaka, Fig. 3, S4500, S4600, S4700, Fig.9 – Fig14); wherein said attribute recognizing part recognizes attributes concerning whether each extracted image area is a text image area, a photographic image area, a filled closed area, an unfilled closed area or a line area (Tanaka, paragraph [0049]), ;

Tanaka in view of Hoffman et al. does not teach that said sequence setting part sets up the overlaying sequence for each image area of text image areas, photographic image areas, filled closed areas, unfilled closed areas, and line areas in accordance with the recognition results of said attribute recognizing part.

Ohta et al. teaches that said sequence setting part sets up the overlaying sequence for each image area of text image areas, photographic image areas, filled closed areas, unfilled closed areas, and line areas in accordance with the recognition results of said attribute recognizing part (Fig 2A 112, Fig. 5, Fig. 6).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to sets up the overlaying sequence for each image area of text image areas, photographic image areas, filled closed areas, unfilled closed areas, and line areas in the device of Tanaka, Hoffman et al.

The suggestion/motivation for doing so would have been that to optimize image processing by identifying / segmenting the image layer so that they can be processed individually and then recombined into a desired order to achieve a better output image.

Therefore, it would have been obvious to combine Ohta et al. with Tanaka, Hoffman et al. to obtain the invention as specified in claim 4.

6. Claim 5 is rejected under 35 USC 103(a) as being unpatentable over Tanaka (US Patent Application Pub. 2002/0003897) in view of Hoffman et al. (US 2004/0169664) as applied to claim 4 above and further in view of Ohta et al. (US Patent 7,054,029).

Tanaka in view of Hoffman et al. and further in view of Ohta et al. teaches all the limitation of claim 4 (see above) which claim 5 depends.

Tanaka in view of Hoffman et al. and further in view of Ohta et al. does not teach that said sequence setting part sets up the overlaying sequence to overlay text image areas in front, filled closed areas and photographic image areas in back, and unfilled closed areas and line areas in between them.

It is clear that person of ordinary skill in the art to think text as most important information, so that, overlay text image areas in front, to avoid blocking line or unfilled

closed area by photographic image or filled closed area, overlay lines and unfilled closed area in the middle and photographic image and filled closed area in back.

Therefore, it would have been obvious to combine Ohta et al. with Tanaka and Hoffman et al. to obtain the invention as specified in claim 5.

7. Claim 7 is rejected under 35 USC 103(a) as being unpatentable over Tanaka (US Patent Application Pub. 2002/0003897) in view of Hoffman et al. (US 2004/0169664) and further in view of Ohta et al. (US Patent 7,054,029).

Tanaka in view of Hoffman et al. and further in view of Ohta et al. teaches all the limitation of claim 4 (see above) which claim 7 depends.

Tanaka also teaches a vector transforming part for transforming image data in graphic image areas into vector data (Fig. 4);

a closed area extracting part for extracting closed areas based on the connection relation of a plurality of vector data (Fig. 5A); a color information judging part for judging whether the color information of internal points and external points of the extracted closed areas are the same(Fig. 6 S4710); and a filled closed area detecting part for detecting filled closed areas based on the judgment results of the color information judging part (Fig. 6 S4750).

With respect to claim 9, please refer to rejection for claim 1.

With respect to claim 10, please refer to rejection for claim 2.

With respect to claim 11, please refer to rejection for claim 3.

With respect to claim 12, please refer to rejection for claim 4.

With respect to claim 13, please refer to rejection for claim 5.

With respect to claim 15, please refer to rejection for claim 7.

With respect to claim 16, please refer to rejection for claim 8.

With respect to claim 17, please refer to rejection for claim 1.

With respect to claim 18, please refer to rejection for claim 2.

With respect to claim 19, please refer to rejection for claim 3.

With respect to claim 20, please refer to rejection for claim 4.

With respect to claim 21, please refer to rejection for claim 5.

With respect to claim 23, please refer to rejection for claim 7.

With respect to claim 24, please refer to rejection for claim 8.

Allowable Subject Matter

8. Claims 6 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randolph Chu whose telephone number is 571-270-

1145. The examiner can normally be reached on Monday to Thursday from 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 571-272-76957695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/RIC/

/Matthew C Bella/

Supervisory Patent Examiner, Art Unit 2624

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/689,669	ICHIKAWA ET AL.	
	Examiner	Art Unit	
	RANDOLPH CHU	2624	